

REMARKS

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

This amendment adds, changes and/or deletes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier. Applicant respectfully submits that the disclosure of Applicant's application provides support for the amendments to the claims. For example, at least original claim 3 and page 3, lines 11-14, of Applicant's specification provide support for the amendments to claim 1.

Claim 3 has been canceled. After amending the claims as set forth above, claims 1, 2, and 4-17 are now pending in this application.

Status of Amendment of November 12, 2009

Applicant acknowledges receipt of the Advisory Action mailed November 24, 2009. However, the Advisory Action does not state whether the amendment of November 12, 2009 was entered or not. During telephone call on November 30, 2009 the Examiner confirmed that the amendment of November 12, 2009 had been entered as an after-Final amendment.

Information Disclosure Statement

Applicant notes that Information Disclosure Statements and PTO/SB/08 forms were submitted on May 4, 2009 and May 27, 2009. However, signed and initialed copies of the PTO/SB/08 forms have not been provided by the Office. Applicant respectfully requests that signed and initialed copies of these PTO/SB/08 forms be provided with the next Office correspondence.

Rejection under 35 U.S.C. § 102

Claims 1 and 3-6 are rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 2,731,243 to Flurschutz (hereafter "Flurschutz"). This rejection is respectfully traversed.

A claim is anticipated only if each and every feature as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). See generally MPEP § 2131.

Flurschutz discloses a heat exchange apparatus with a pair of plates 10, 12 and sinuously bent wires that form pin-like fins 17 between the plates 10, 12. See Flurschutz at col. 1, lines 15-20; col. 1, line 71, to col. 2, line 12. Flurschutz discloses that the sinuously bent wires form U-shaped loops, as shown in Figures 3, 5, and 9 of Flurschutz. See Flurschutz at col. 2, lines 8-12.

Flurschutz discloses that plates 10, 12 form a passageway 16 in which the sinuously bent wires are located and that passageways 18, 19 are further located between the plates 10, 12 and walls of adjacent air passages. See Flurschutz at col. 1, line 71, to col. 2, line 5. The apparatus of Flurschutz includes channel members 20 positioned between plates 10, 12 within the passageway 16 and channel members 22 mounted on the outer surfaces of plates 10, 12. See Flurschutz at col. 2, lines 12-24, and Figure 2.

However, Flurschutz does not disclose a heat exchanger comprising, among other things, a soldered heat exchanger network and a corrugated rib having at least two rib surfaces which are arranged essentially parallel to one another and are connected by an arcuate piece joined to a flat tube, wherein the arcuate piece has a lower curvature in a middle portion than in a first outer portion and in a second outer portion, wherein the arcuate piece has in the middle portion a radius of curvature $R1$ which is greater than a rib height RH of the corrugated rib, as recited in claim 1. Claims 4-6 depend from claim 1.

The Office argues on page 2 of the Office Action that the pin-like fins 17 serve as corrugated ribs and that bight or yoke portions 14 of the sinuously bent wires serve as an arcuate piece with a middle portion, first outer portion, and a second outer portion. The Office further suggests on page 3 of the Office Action that a radius of curvature of a middle portion of the bight or yoke portions 14 is greater than a rib height of the pin-like fins 17.

However, Flurschutz does not disclose these features and is silent in regard to a relationship between a radius of curvature of a middle portion an arcuate piece and a right height, as recited in claim 1. In addition, Applicant notes that proportions of features in a drawing are not evidence of actual proportions when the drawings are not to scale, as in the case of Flurschutz. See MPEP § 2125.

In addition, the Office argues on pages 2 and 9 of the Office Action that the sinuously bent wires that form the fins 17 of Flurschutz form an arcuate piece joined to a flat tube, wherein the arcuate piece has a lower curvature in a middle portion than in a first outer portion and in a second outer portion of the arcuate piece, as recited in claim 1, noting Figures 3, 5, and 9 of Flurschutz. Applicant respectfully disagrees.

The arcuate regions of the sinuously bent wires of Flurschutz, which are joined to plates 10 and 12, do not have middle portions with a lower curvature than first and second outer portions of the arcuate regions, as recited in claim 1. In fact, the wires shown in Figures 3, 5, and 9 of Flurschutz have constant, uniform curvatures throughout any arcuate portions joined to the plates 10, 12. Any middle portion of an arcuate region of a wire that is joined to the plates 10, 12 of Flurschutz has the same curvature as any outer region flanking the middle portion of that wire, as shown in Figures 3, 5, and 9 of Flurschutz. Nor does any middle portion of an arcuate region where the wires of Flurschutz are joined to the plates 10, 12 have a lower curvature than first and second outer regions of the arcuate region, as recited in claim 1.

For at least the reasons discussed above, Flurschutz does not anticipate claims 1 and 4-6 because Flurschutz does not disclose all of the features of claim 1. Applicant respectfully requests reconsideration and withdrawal of this rejection.

Rejections under 35 U.S.C. § 103

Claims 2 and 17 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Flurschutz as applied to claim 1, and further in view of U.S. Patent No. 3,724,538 to Yamaguchi *et al.* (hereafter “Yamaguchi”). This rejection is respectfully traversed. Yamaguchi fails to remedy the deficiencies of Flurschutz discussed above in regard to

independent claim 1, from which claims 2 and 17 depend. Reconsideration and withdrawal of this rejection is respectfully requested.

Claim 8 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Flurschutz as applied to claim 1, and further in view of U.S. Patent No. 6,308,527 to Kuroyanagi *et al.* (hereafter “Kuroyanagi”). This rejection is respectfully traversed. Kuroyanagi fails to remedy the deficiencies of Flurschutz discussed above in regard to independent claim 1, from which claim 8 depends. Reconsideration and withdrawal of this rejection is respectfully requested.

Claims 9 and 11-16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Flurschutz as applied to claim 1, and further in view of U.S. Patent No. 7,231,965 to Shimoya *et al.* (hereafter “Shimoya”). This rejection is respectfully traversed. Shimoya fails to remedy the deficiencies of Flurschutz discussed above in regard to independent claim 1, from which claims 9 and 11-16 depend. Reconsideration and withdrawal of this rejection is respectfully requested.

Claim 7 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Flurschutz in view of Shimoya and U.S. Patent No. 6,805,193 to Hu *et al.* (hereafter “Hu”). This rejection is respectfully traversed. Shimoya and Hu fail to remedy the deficiencies of Flurschutz discussed above in regard to independent claim 1, from which claim 7 depends. Reconsideration and withdrawal of this rejection is respectfully requested.

Claim 10 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Flurschutz Kuroyanagi and Shimoya. This rejection is respectfully traversed. Kuroyanagi and Shimoya fail to remedy the deficiencies of Flurschutz discussed above in regard to independent claim 1, from which claim 10 depends. Reconsideration and withdrawal of this rejection is respectfully requested.

Claim 12 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Flurschutz as applied to claim 1, and further in view of U.S. Patent No. 5,361,829 to Kreutzer *et al.* (hereafter “Kreutzer”). This rejection is respectfully traversed. Kreutzer fails to remedy the

deficiencies of Flurschutz discussed above in regard to independent claim 1, from which claim 12 depends. Reconsideration and withdrawal of this rejection is respectfully requested.

Conclusion

Applicant submits that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.


The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741.

Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing or a credit card payment form being unsigned, providing incorrect information resulting in a rejected credit card transaction, or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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Date _____

By  _____

FOLEY & LARDNER LLP
Customer Number: 22428
Telephone: (202) 295-4011
Facsimile: (202) 672-5399

Pavan K. Agarwal
Attorney for Applicant
Registration No. 40,888

Kevin L. McHenry
Attorney for Applicant
Registration No. 62,582